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DEPARTMENT OF NATURAL RESOURCES
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Technical Analysis and Findings

Utah Coal Regulatory Program

PID: C0070018
TaskID: 4633
Mine Name: SOLDIER CANYON MINE
Title: MIDTERM PERMIT REVIEW

Summary

The Midterm Permit Review can not be approved/completed until the Permittee updates the reclamation cost estimate using 2014 unit cost data from the 2014 R.S. Means Heavy Construction Cost Data Manual. This total cost must be escalated to 2019 using the 1.9 % factor.

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Operation Plan

Mining Operations and Facilities

Analysis:

On June 30th the Division notified Rick Parkins (General Manager Canyon Fuel Co) of the commencement of the Mid-Term review for the Soldier Canyon mine. The review included the following:

A. A review of the Plan to ensure that the requirements of all permit conditions, division orders, notice of violations (NOV), abatement plans, and permittee-initiated Plan changes approved subsequent to permit approval or renewal (whichever is the most recent) are appropriately incorporated into the Plan document.

B. Ensure that the Plan has been updated to reflect changes in the Utah Coal Regulatory Program which have occurred subsequent to permit approval or renewal.

C. A review of applicable portions of the permit to ensure that the Plan contains commitments for application of the best technology currently available (BTCA) to prevent additional contributions of suspended solids to stream flows outside of the permit area.

D. An evaluation of the compliance status of the permit to ensure that all unabated enforcement actions comport with current regulations for abatement; verify the status of all finalized penalties levied subsequent to permit issuance or permit renewal, and verify that there are no demonstrated patterns of violation (POV). This will include an AVS check to ensure that Ownership and Control information is current and correct.

E. An evaluation of the reclamation bond to ensure that coverage adequately addresses permit changes approved subsequent to permit approval or renewal, and to ensure that the bond amount is appropriately escalated in current-year dollars.

F. An evaluation the permit for compliance with variances or special permit conditions.

G. Optional for active mines, mandatory for reclamation only sites: a technical site visit in conjunction with the assigned compliance inspector to document the status and effectiveness for operational, reclamation, and contemporaneous reclamation practices undertaken on predetermined portions of the disturbed area to minimize, to the extent practicable, the contribution of acid or toxic materials to surface or groundwater, and to otherwise prevent water pollution.

This analysis will include a review of items A, B, F and G.

A. & B. The mine went into temporary cessation on February 24th, 1999 and the most recent permit renewal is dated February 3rd, 2012. Since that time there has been and adjustment to coal lease # UTU 50722 on 8/20/2012, a permit transfer to Bowie Resources on 12/13/2013, bonds for the 6 coal leases accepted by the BLM on 1/16/2014 and the termination of the liability period for three of the leases by the BLM on 2/13/2014. With the exception of the Permit Transfer the other actions were noted correspondence that has been scanned in to the Division's records database (CTS). The Permit Transfer has been appropriately incorporated into the Plan document.

There are no outstanding permit conditions, division orders, notice of violations (NOV), or abatement plans.

F. There are no known special variances or commitments listed in the MRP.

G. During the site visit to the topsoil piles located down canyon from the main facility it was noted that the vegetation on stockpile for the topsoil borrow area had been pretty well eaten off by rabbits. It is suggested that the permittee and the soils specialist for the Division (Priscilla Burton) develop a seeding strategy for the fall of 2014. In lieu of seed mixes the Division biologist had made recommendations to changes in the seed mix by way of E- mail (Ingrid Campbell to Vicky Miller) on 6/19/2012. The permittee should follow up on this correspondence.

Deficiencies Details:

It is suggested that the permittee provide the following information in accordance with R645-301-234.230 and 301-353;

During the site visit to the topsoil piles located down canyon from the main facility it was noted that the vegetation on stockpile for the topsoil borrow area had been pretty well eaten off by rabbits. It is suggested that the permittee and the soils specialist for the Division (Priscilla Burton) develop a seeding strategy for the fall of 2014. In lieu of seed mixes the Division biologist had made recommendations to changes in the seed mix by way of E- mail (Ingrid Campbell to Vicky Miller) on 6/19/2012. The permittee should follow up on this correspondence.

jhelfric

Topsoil and Subsoil

Analysis:

The Soldier Canyon topsoil storage site is located in T. 13 S. R. 11 E., Sec. 25, S1/2SW1/4NE1/4, approximately 2.5 miles south of the central mine facilities area, see Ex 5.21-2 Topsoil Storage Site for as-built information.

There are 4,414 cu yds of subsoil and 3,560 cu yds of topsoil stockpiled at the Soldier Canyon storage site (Chap 5 revised pg 5-57 and 5-64 and Figures 2 and 3, Appendix 2E).

Exhibit 5.21-2, referred on pages 2-31, 2-32 and 2-39 of the MRP shows the original topsoil storage site configuration in 1992. Since then, the topsoil storage site has expanded to 8.6 acres with 7.8 acres being disturbed. Of those 7.8 acres, 2.3 acres are used as storage of topsoil, subsoil and landscape boulders/rock for the Soldier Creek Mine (p 5-33 Chapter 5 of the revision and Plate 2-3 of Appendix 2-F). The remainder of the site is used for topsoil/subsoil storage by the Dugout Canyon Mine.

The topsoil and subsoil and boulder stockpiles at the Soldier Canyon stockpile site were created during the surface facilities expansion, in 1992 . According to the MRP, p. 3-13, the intermediate seed mix (Appendix 3E) was used to stabilize the stockpiles. The components of the mix were Intermediate wheatgrass, slendar wheatgrass, thickspike wheatgrass, western wheatgrass, yellow sweetclover, and alfalfa.Cheat grass control has been a concern on the topsoil stockpile. Inspection Report #2107 outlines past efforts to control cheat grass on the (small) NW topsoil stockpile which involved burning (torching) the topsoil stockpile in March 2007, followed by 2-4D application in the late fall 2007. The control also involved manual cheatgrass pulling in May and December 2008. During an inspection of the adjacent Dugout stockpiles on 9/16/2010 (Insp Rpt #2497), the Soldier Canyon topsoil stockpile was observed to have minimal cheat grass cover and

there have been no further treatments.

In 2009 and 2010 fencing was compromised and cattle gained access and grazed the topsoil and subsoil stockpiles down to the crown of the plants. The 2014 mid-term site inspection also found heavy grazing, this time rabbits are suspected. Reseeding the topsoil/subsoil piles would encourage more desirable species to out-compete the remaining weedy species. I recommend replacing the yellow sweet clover and alfalfa in the intermediate mix with Palmer penstemon (Penstemon palmeri), globemallow (Sphaeralcea sp.), and prairie sage (Artemisia ludoviciana). I also recommend including the grasses: alkali sakaton (Sporobolus airoides), and Indian ricegrass (Achnatherum hymenoides), because of their drought tolerance.

Deficiencies Details:

R645-301-R645-301-234.230, The 2014 mid-term site inspection found topsoil and subsoil stockpiles were heavily grazed. Reseeding the topsoil/subsoil piles would encourage more desirable species to out-compete the remaining weedy species. The Division recommends replacing the yellow sweet clover and alfalfa in the intermediate mix (found in Appendix 3E) with Palmer penstemon (Penstemon palmeri), globemallow (Sphaeralcea sp.), and prairie sage (Artemisia ludoviciana). The Division also recommends including the grasses: alkali sakaton (Sporobolus airoides), and Indian ricegrass (Achnatherum hymenoides), because of their drought tolerance.

pburton

Hydrologic Sediment Control Measures

Analysis:

As part of the midterm review, the Division reviewed the approved Mining and Reclamation Plan (MRP) to ensure that commitments were in place to utilize the best technology currently available (BTCA) to prevent additional contributions of suspended solids to stream flows outside the permit area.

The Permittee utilizes a variety of structures for runoff control and to prevent suspended solids from discharging off-site: undisturbed diversion channels, disturbed area diversion channels, sedimentation ponds, containment berms, riprap, strawbales, revegetation, road diversions and culverts, stream channel by-pass culverts and natural drainage channels. The Permittee commits on page 7-169 of the MRP to """"maintain all culverts during the life of the facilities"""".

Based on a field inspection conducted on July 29th, 2014, the aforementioned sediment control measures were observed to be functioning as designed. Every diversion, as depicted on Exhibit 7.32-1, was observed. All of the diversions were found to be clean of debris, in good condition and functioning as designed.

The primary sediment control measure is the sediment pond. The sediment pond was observed during the field inspection. The approved 60% sediment cleanout accumulation level (6,647.50') is shown on drawings B126 and B127 to be two feet below the decant pipe elevation (6.649.50'). During the field inspection, the sediment level was noted to be least three to four feet below the decant pipe elevation.

The MRP also outlines the implementation of Alternative Sediment Control Areas (ASCA). Nine ASCAs are utilized at the Soldier Canyon Mine site, with two located approximately 2 and 2.5 miles south of the main mine facility. The total area within the permit area that utilizes ASCAs is 4.90 acres. The ASCAs are listed and discussed in detail beginning on page 7-173 of the MRP. Table 7.42.2.2-1, Alternative Sediment Control Areas, list the ASCAs and provide their drainage areas (acres) and treatable runoff (acre-ft).

The descriptions of the ASCAs provided in the MRP were verified during the field inspection on July 30th,2014. The ASCAs were observed to functioning as approved and designed. One discrepancy was noted.

ASCA #7 is located at the topsoil storage site located approximately 2.5 miles south of the main mine facility. The site is utilized for the storage of topsoil, sub-soil and landscape boulders/riprap. Plate 2-3, Topsoil Pile Location, depicts the current configuration of the topsoil storage facility. The site is also depicted in Figure 7.42-6. However; based on the field inspection, the figure is out of date. The Permittee indicated that soil from the Dugout Canyon Mine facility was approved for storage at this site. It's evident that the discussion of ASCA #7 and Figure 7.42-6 were not revised during the permitting action.

The Permittee must revise the discussion/text portion of the MRP relative to ASCA #7 on page 7-184. The discussion of ASCA #7 does not identify/discuss the permitting action that allowed for the storage of soil from the Dugout Canyon Mine. The text should be revised to reflect this additional material being stored at the facility. In addition, please remove Figure 7.42-6, Topsoil Storage Site (As Built) located on page 7-187 and insert Plate 2-3, Topsoil Pile Location or provide a

reference to it in the aforementioned narrative (i.e. See Plate 2-3, Volume II).

In summary, the Permittee is in compliance with the approved sediment control measures in the MRP. Evidence of additional suspended solids being added to stream flow outside the permit area was not observed.

Deficiencies Details:

R645-301-742, -742.240: The Permittee must revise the discussion/text portion of the MRP relative to ASCA #7 on page 7-184. The discussion of ASCA #7 does not identify/discuss the permitting action that allowed for the storage of soil from the Dugout Canyon Mine. The text should be revised to reflect this additional material being stored at the facility. In addition, please remove Figure 7.42-6, Topsoil Storage Site (As Built) located on page 7-187 and insert Plate 2-3, Topsoil Pile Location or provide a reference to it in the aforementioned narrative (i.e. See Plate 2-3, Volume II).

schriste

Reclamation Plan

Bonding Determination of Amount

Analysis:

In accordance with the requirements of R645-301-830.140, the Permittee must update the direct unit costs for the reclamation cost estimate for the 2014 Midterm Permit Review by using current information from the 2014 R. S. Means Heavy Construction Cost Data Manual.
The total of the direct and indirect costs must be escalated by 1.9 % for 5 years to determine the reclamation cost / bond amount which is needed to keep the Soldier Canyon Mine permit area in compliance relative to bonding through 2019.

Deficiencies Details:

The current plan is deficient. The reclamation cost estimate must be updated using 2014 unit costs from the current edition of the R. S. Means Heavy Construction Cost Data Manual. The total of the direct and indirect costs must be escalated to 2019 using the 1.9 % escalation factor for 2014.

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